

Canadian VLBI Technology Development Center

Bill Petrachenko

Abstract

The Canadian VLBI Technology Development Center (TDC) is involved in activities related to the realization of the VLBI2010 Global Observing System (VGOS).

1. Introduction

The Canadian TDC is a collaborative effort of the National partners interested in the advancement of VLBI technology, namely the Geodetic Survey Division of Natural Resources Canada (GSD/NRCan) and the Dominion Radio Astrophysical Observatory (DRAO) of the National Research Council of Canada (DRAO/NRC).

2. VGOS

The Canadian TDC is primarily focused on encouraging the realization of VGOS. This is done by Bill Petrachenko of NRCan, who is the IVS Technology Development Coordinator, chairman of the VLBI2010 Committee (V2C), and a member of the VLBI2010 Project Executive Group (V2PEG). In collaboration with others, this year's activity focused on the following areas:

- Development of FPGA code for VGOS digital back ends.
- Compilation of a comparison of VGOS digital back ends.
- Compilation of a comparison of VGOS feeds.
- Execution of studies into the mitigation of intra-site RFI from DORIS and SLR aircraft avoidance radar.
- Analysis of V2PEG RFI survey responses.

3. NRC Activities in Support of the Square Kilometer Array (SKA)

Under the leadership of Brent Carlson, NRC is lead of SKA central signal processing encompassing the SKA correlator, beam former, and pulsar processing.

Under the leadership of Gordon Lacy, a light, stiff, and cost effective 15-m off-axis Gregorian top-fed composite antenna is being fabricated.

Under the leadership of Gary Hovey, development progresses in the areas of focal plane arrays and a general purpose high-capacity multi-FPGA signal processing platform.